

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH

P. O. BOX 3378
HONOLULU, HAWAII 96801

JOHN C. LEWIN, M.D.
DIRECTOR OF HEALTH

FIVE WATERFRONT PLAZA, SUITE 250
500 ALA MOANA BOULEVARD
HONOLULU, HI 96813
FAX # (808) 586-4370

In reply, please refer to:

FACSIMILE REQUEST AND COVER SHEET
(Use Black or Blue Ink Only)

DATE: 2/5/94 No. of pages (Incl. cover sheet): 2

TO: Kay "Ann Electric"

Office/Phone/Mail stop: 543-7023

FROM: Edna "HEER"

Office/Phone/Mail stop: 586-4347 / 4310

SUBJECT/MESSAGE: REVISED COPY of DOT Policy

SIGNATURE OF SENDER: [Signature]

NOTE: If this transmittal was incomplete or illegible, please call the sender's office.

Rev. 7/29/91

DOH POLICY RELATING TO ELECTRIC AND
MAGNETIC FIELDS FROM POWER-FREQUENCY SOURCES

January 19, 1994

The Department of Health, in response to continuing but inconclusive scientific investigation concerning electric and magnetic fields (EMF) from low-frequency power sources, recommends a "prudent avoidance" policy. "Prudent avoidance" means that reasonable, practical, simple, and relatively inexpensive actions should be considered to reduce exposure.

A cautious approach is suggested at this time concerning exposure to electric and magnetic fields (EMF) around low-frequency sources, such as electric appliances and power lines. The existing research data on possible adverse health effects, including cancer, are inconclusive and not adequate to establish or quantify a health risk. For example, the biological mechanisms that might underlie any apparent relationship between EMF and cancer have yet to be clearly defined. Also, some epidemiological studies suggest that, if these fields increase the risk of cancer, it is a very small increase. Other epidemiological studies suggest that there is no increased risk.

The Department of Health will continue to collect and evaluate information on possible health hazards associated with electric and magnetic fields. If adequate data ever become available to establish what levels may be harmful, appropriate standards will be established.

TESTIMONY BEFORE THE JOINT HOUSE COMMITTEES ON
HEALTH AND
ON HUMAN SERVICES

February 14, 1994

H. B. NO. 3241

By: William A. Bonnet, Manager
Environmental Department
Hawaiian Electric Company, Inc.

Chairman Duldulao and and Chairman Chum and Members of the Committees:

My name is William A. Bonnet and I represent Hawaiian Electric Company and its subsidiary utilities, Hawaii Electric Light Company and Maui Electric Company.

Hawaiian Electric Company opposes H. B. No. 3241, which proposes that the electric utility be required to document that risk to residential or school populations from electromagnetic fields associated with new construction is less than the cost of alternative siting or design. The Department of Health has stated, as a matter of policy, that "existing research data on possible adverse health effects, including cancer, are inconclusive and not adequate to establish or quantify a health risk." There being no definable risk at the present time, it would be effectively impossible for the utility to provide documentation of risk. Because the Public Utilities Commission, under this proposed language, would be prohibited from approving a proposed transmission project without such documentation, no transmission or subtransmission lines could be added to the HECO system. This would include replacements and modifications as well as additions. The electric utility would be prohibited from meeting its obligation to serve. We strongly urge this bill be held.

Thank you for allowing me to testify on this bill.



STATE OF HAWAII
DEPARTMENT OF EDUCATION
WAIMALU ELEMENTARY SCHOOL
98-825 MOANALUA ROAD
AIEA, HAWAII 96701

January 20, 1994

Hawaiian Electric Company, Inc.
P.O. Box 3978
Honolulu, Hawaii 96812

Dear Mr. Bonnet and Mrs. Kawaguchi:

Thank you for taking the time out of your jobs to educate us about Electric and Magnetic Fields. Your presentation cleared up some misconceptions. I learned something that mystified me.

Sincerely,

Jonathan Sugai

Jonathan Sugai
6th Grade, Waimalu Elementary School

Noted: *Naomi H. Yap*
Naomi H. Yap, facilitator of gifted students

cc Mr. Harwood D. Williamson



STATE OF HAWAII
DEPARTMENT OF EDUCATION
WAIMALU ELEMENTARY SCHOOL
98-825 MOANALUA ROAD
AIEA, HAWAII 96701

January 20, 1994

Hawaiian Electric Company, Inc.
P.O. Box 3978
Honolulu, Hawaii 96812

Dear Mr. Bonnet and Mrs. Kawaguchi:

Thank you for taking the time to come and educate us about EMFs. I really enjoyed meeting you. I also liked using the graussmeter.

I also appreciate your efforts to try to look for more information about Mu metal.

Thank you again. I really learned many things.

Thank you,

A handwritten signature in cursive script, reading "Bryce Fukunaga".

Bryce Fukunaga
6th Grade, Waimalu Elementary School

Noted: A handwritten signature in cursive script, reading "Naomi H. Yap".
Naomi H. Yap, facilitator of gifted students

cc Mr. Harwood D. Williamson



STATE OF HAWAII
DEPARTMENT OF EDUCATION
WAIMALU ELEMENTARY SCHOOL
98-825 MOANALUA ROAD
AIEA, HAWAII 96701

January 20, 1994

Hawaiian Electric Company, Inc.
P.O. Box 3978
Honolulu, Hawaii 96812

Dear Mr. Bonnet and Mrs. Kawaguchi:

Thank you for taking the time from your busy schedules to come and teach us more about Electric and Magnetic Fields. Your information was very helpful in clearing up misconceptions in our report.

I'll be eagerly waiting for the results of Dr. Savitz's study. I can't wait to find out more information about EMFs.

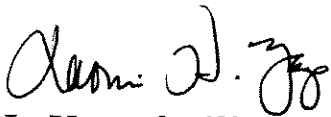
Also, thank you for letting us use your graussmeter. I had fun measuring everything that gives off magnetic fields. I thought that it was interesting that a digital clock gives off more magnetic fields than the power lines do. It's just too bad that there are no EMFs coming from Bryce's brain!

Thank you for everything,

A handwritten signature in cursive script that reads "Shelley Nakasone".

Shelley Nakasone
6th Grade, Waimalu Elementary School

P.S. I still use my hair dryer, but now I keep it much further away from my head!

Noted: 

Naomi H. Yap, facilitator of gifted students

cc Mr. Harwood D. Williamson

**NOTES FOR
ELECTRIC AND MAGNETIC FIELDS MEETING
of
DOE, DOH AND HECO REPRESENTATIVES
900 Richard Street - 2nd Floor Auditorium
January 14, 1994
10:00 - 11:30 A.M.**

1. Attended by:

Dept. of Education

Alfred Suga
Lester Chuck

Dept. of Health

Dr. Bruce Anderson
Leslie Au

HECO

Richard O'Connell
Bill Bonnet
Charlotte Kawazoe
Kathy Kawaguchi

2. Richard O'Connell:

- a. Welcomed everyone and thanked them for taking the time to attend this meeting.
- b. Reviewed initiatives undertaken by HECO related to EMF: EMF measurement surveys, EMF Telephone Hotline, provision of EMF literature, provision of gauss meters and training for various State Departments, and EMF Education Project.
- c. Asked Kathy Kawaguchi to provide details on the EMF Education Project.

3. Attention was then turned to the primary purpose of the meeting - identifying roles and responsibilities related to school generated EMF concerns. Background information on the Aiea High School request was shared.

4. Dr. Bruce Anderson pointed out that as much as the Department of Health would like to be able to provide services related to school generated EMF concerns, the reality is that there is only one Department toxicologist - Leslie Au - and he is responsible for a wide range of health concerns. As a result, he cannot possibly provide support services in every situation - such as the taking of magnetic field measurements. Dr. Anderson did state, however, that in cases like the Aiea High School situation where a presentation to over a hundred staff members was necessary, Leslie Au would be available to clarify health issues and the Department's position with respect to EMF.

5. In addition, the Department of Health will be putting together a pamphlet which states the Department's policy regarding EMF and explaining how to implement the policy.

6. Richard O'Connell indicated that HECO is willing to provide consultative services with respect to EMF concerns, however, he does not believe that HECO should take the lead on health issues.

7. Bill Bonnet expressed concern about people other than DOE personnel making the magnetic field measurements in the schools. Reason: The measurer will more than likely be asked to suggest mitigating actions - and in the schools, those mitigating actions may carry with them very large price tags.

EMF Meeting Notes
Page 2

8. Both Al Suga and Lester Chuck indicated that the DOE personnel would be uncomfortable in handling EMF concerns by themselves due to the breadth and complexity of the issue.
9. The group identified the organization to be notified in the event an EMF related request is made from:
 - the State Offices, refer to Division of Occupational Safety & Health
 - private schools, refer to HECO
 - public schools, refer to DOE (Mel Seo)
10. Requests for EMF information/literature should be made to Charlotte Kawazoe, HECO-Education and Consumer Affairs Division, Energy Services Department.
11. Al Suga said the DOE will begin to draft policies and procedures related to EMF concerns. Al asked if HECO and the DOH would be able to review the document and provide input. Representatives of both HECO and the DOH offered their assistance.
12. Al Suga stated that he believes the Fire Safety Program can serve as a model for the EMF initiatives, since they share many of the same components. If a similar program is to be developed, then an education component will need to be included for district business personnel and principals. HECO indicated its willingness to assist the DOE with their education component.
13. Another meeting will be convened when the DOE has prepared their draft EMF policies and procedures.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001



November 3, 1993

William A. Bonnet
Manager
Environmental Department

Mr. Leslie Au
Hazard Evaluation and
Emergency Response Program
Hawaii State Dept. of Health
P.O. Box 3378
Honolulu, HI 96801

Dear Leslie:

Re: Draft EMF Policy and Guidance

Here are my suggestions for your consideration. May I recommend one more round as a draft? I'd like to share that one with key people at HECO for their input. Also, the guidance is not specific to workplace situations. You may want to confer with the HIOSH people and include some prudent avoidance actions for the general office environment.

Thanks for the opportunity, good effort.

Sincerely,

William A. Bonnet

Enc.

DOH POLICY RELATING TO ELECTRIC AND
MAGNETIC FIELDS FROM ~~LOW~~-FREQUENCY SOURCES
power

OCTOBER 26, 1993

Because scientists do not as yet have all the answers

a ~~X~~ cautious approach is suggested at this time concerning exposure to electric and magnetic fields around low-frequency sources, such as electric power lines and appliances. The existing research data on possible adverse health effects, such as cancer, are inconclusive and not adequate to establish or quantify a health risk. Studies have shown that exposures to these fields ^{*from appliances and equipment*} in the home and workplace are usually greater than from power lines. Some but not all epidemiological studies suggest that, if these fields increase the risk of cancer, it is a very small increase.

Due to the present inability ^{*to*} quantify any health risks that may be attributed to exposure to low-frequency electric and magnetic fields, a "prudent avoidance" approach is suggested to those who are concerned. Prudent avoidance means that actions should be considered to reduce exposure when they are practical.

The Department of Health will continue to collect and evaluate information on possible health hazards associated with electric and magnetic fields. ^{*Should*} ~~When~~ adequate data become available to establish what levels, if any, may be harmful, appropriate standards ^{*will*} ~~should~~ be established.

(Page 1 of brochure)

Electric and Magnetic Fields from Electric Power

^{information}
This ~~advice~~ applies to electric and magnetic fields which originate from electric power lines or appliances that run on electric power. To date, there is no ^{consistent, compelling evidence} ~~conclusive~~ proof that electric and magnetic fields from electric power can cause harmful health effects.

However, if you believe that electric and magnetic fields ~~are~~ ^{may be} a health hazard, then you may wish to take actions which ~~may or may not~~ reduce ^{exposure} ~~any potential health risks~~. Prudent avoidance means taking reasonable, practical, relatively inexpensive, and simple actions to ^{reduce} ~~avoid~~ exposure to ^{electric and magnetic fields} ~~any possible hazard~~. The Department of Health ~~suggests~~ ^{has identified} some prudent avoidance actions which you ~~can~~ ^{may} take. ^{wish to consider.}

anything which causes you concern, in this case electric and magnetic fields.

(Pages 2 and 3 of brochure)

Electric and ~~magnetic~~ ^{fields} are
This ~~is~~ NOT Radiation

- Electromagnetic radiation includes radio waves, microwaves, visible and ultraviolet (UV) light, X-rays, and gamma rays. In all of these, energy is radiated outward from its source and can ^{produce} ~~cause known~~ harmful effects on human health.
- Wherever electricity is present, there is an invisible electric field. However, unlike radiation or radiated energy, an electric field is stationary ~~(similar to a corn field)~~ around its source and carries ^{very little} ~~no~~ energy.

-Electric fields are not suspected to cause harmful effects on health, partly because they ~~can be~~^{are} shielded by any solid object. ^{easily}

-Wherever electricity is flowing, there is an electric field and also a second invisible field -- a magnetic field. ~~unlike~~^{an electric field} ~~radiation or radiated energy~~, a magnetic field is stationary ~~(similar to a wheat field)~~ around its source and carries ~~no~~^{very little} energy.

In addition
to power lines
and household
appliances,

-Other sources of ~~stationary~~^{include} magnetic fields ~~are~~^{are} common magnets, the ^eEarth itself, and magnetic resonance imaging (MRI) devices used in hospitals.

-Magnetic fields ~~made by~~^{associated with} electric power usage are suspected by some people to cause ~~childhood leukemia~~^{harmful effects on health}

because they are difficult to shield by any object. ^{or even convincing evidence} ~~convincing evidence~~

-To date, there is no conclusive proof^{or even convincing evidence} that electric or magnetic fields ~~from electric power~~ can cause harmful health effects. ^{accurate and balanced}

-Scientific journals are a more ^{truthful} ~~truthful~~ source of information on this subject than articles in popular magazines. The Department of Health uses scientific journals to stay informed.

~~Electric and magnetic fields are NOT radiation.~~ (already stated)

Prudent Avoidance of Electric and Magnetic Fields

~~These suggestions~~

-This advice ~~assumes~~^{of concern} that only magnetic fields, not electric fields, are ~~possibly hazardous to health~~. This is because it ~~is easy to shield a person from an electric field~~.

-If no electric power is being used, then no electric ~~field~~^{current} is

flowing. If no ~~electricity~~^{current} is flowing, there is no magnetic field.

-The more electric~~ity~~^{current} flowing through a source (power line or appliance), the farther the magnetic field will extend from the source.

-However, electric and magnetic fields have a limited distance.

The farther from their source, the weaker they become, eventually decreasing to ~~zero~~ a level which cannot be measured.

-The more electric~~ity~~^{current} flowing through a source, the ~~more intense~~^{stronger} the magnetic field (usually measured in milligauss) is near the source. No matter how strong a magnetic field is, though, it will grow weaker and eventually disappear as you ~~go~~^{move} farther from the source.

(Page 4 of brochure)

Avoiding Magnetic Fields at Home and at Work

-Is ~~difficult~~^{effectively impossible} to do, ~~constantly~~ entirely. Electricity is part of our lives.

-Use as little electricity as possible, or turn things off. No ^{you can} power use -- no magnetic field~~s~~.

-If appliances and lights have to be on, remember that a magnetic field extends only a limited distance. ~~before becoming zero~~. Stay beyond its limited reach.

Typical distances:	microwave oven	10-12 feet
	television	6 feet
	window air-conditioner	4-8 feet
	fan	2 feet
	computer (from monitor)	1.5 feet

copying machine

1.5 feet

- Move away from higher-power appliances while they are running.
- Do not keep electric appliances beside your bed.

Even if you do all these things,

↓
fields are ~~sometimes~~ difficult to avoid. Electricity flows through wall wiring and electrically grounded water pipes, creating fields around wires and pipes. Here are three examples.

-In some buildings, the ceiling of the first story could also be the floor of the second story, so that people on the second story are sitting in the magnetic fields from the first story's ceiling lights and wiring.

-If a house's power supply comes in from the street in front, and the kitchen is at the back of the house, then a microwave oven will pull electricity through the wiring in the house and create magnetic fields from front to back.

-If two (or more) houses ~~share~~ the same water pipes, electric use in one house could cause the magnetic fields to increase in both houses.

are grounded to

How can you find out more about electric and magnetic fields?

The State of Hawaii maintains information on this subject in its main library at the intersection of Beretania and Punchbowl Streets. This material includes articles, studies, reports of research and news items from both national and international sources. It is regularly updated. Go to the Business and Technology section on the second floor and ask for help if you need it.



William A. Bonnet
Manager
Environmental Department

September 24, 1993

The Honorable Gene R. Ward
House of Representatives
Hawaii State Legislature -
17th Legislative Session
State Capitol - Room 1306
Honolulu, HI 96813

Dear Representative Ward:

This is in response to your letter of September 17 on behalf of Mr. and Mrs. Arthur Caldeira. Our property at the intersection of Hao and Aipuni Streets was at one time a substation, with transformers reducing voltage. Some time ago the facility was converted to a switching vault, where voltage is not changed but 12 kV power is directed through lines as required by supply and demand within our system. We are giving consideration to converting the existing manual system to automatic, which would increase reliability. If that were to be done, the equipment could be pad-mounted and less land area would be required, allowing us to consider options for the balance of the property which could involve offer for sale (subject to PUC approval). However, a number of ducts and cables cross the lot and it would be expensive to relocate them. In addition, the land is unstable and we must be concerned with this risk in any alternative use of a portion of the lot.

There are two 12 kV circuits through Mr. and Mrs. Caldeira's property at 678 Aipuni Street. These originate at our Wiliwili Substation across the valley and terminate at the switching vault under discussion. We have no plans for system changes which would alter the configuration of lines through the Caldeira's property. HECO corresponded with Mr. Caldeira on February 3, 1993 in response to his request for information on EMF. We would be pleased to take measurements at his residence since we have no record of measurement in the vicinity. Even if we did, I imagine he would prefer site specific data, which we can provide. Unfortunately, Mr. and Mrs. Caldeira are not listed in the telephone directory; if your office could give us a telephone number we would be pleased to make arrangements with them. You may also be interested in seeing how we go about conducting such a survey.

The Honorable Gene R. Ward
September 24, 1993
Page Two

As always, it is a pleasure to hear from you on behalf of your constituents.

Sincerely,

A handwritten signature in dark ink, appearing to read "Gene R. Ward", with a long horizontal flourish extending to the right.



HOUSE OF REPRESENTATIVES

STATE OF HAWAII
STATE CAPITOL
HONOLULU, HAWAII 96813

September 17, 1993

**Mr. William Bonnett, Manager
Environmental Division
Hawaiian Electric Company
P.O. Box 2750
Honolulu, Hawaii 96840**

Dear Mr. Bonnett,

The purpose of this letter is twofold:

- 1. To request an update on the present situation and future plans for the electrical "sub station" located at the corner of Hoa Street and Aipuni Streets.**
- 2. To request the date and results of your last EMF test in the vicinity of 678 Aipuni Street, where you have a right-away easement. Please also note if any future tests are contemplated?**

The above data will be extremely helpful to this office and Mr. and Mrs. Arthur Caldeira of 678 Aipuni Street.

We greatly appreciate your prompt attention to this matter.

Sincerely,

A handwritten signature in black ink, reading "Gene Ward". The signature is written in a cursive, flowing style.

**Gene Ward
Representative, 16th District**

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0000



William A. Bonnet
Manager
Environmental Department

June 10, 1993

Mr. Ken Hirai
State of Hawaii
Dept. of Labor & Industrial Relations
830 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Hirai:

I am pleased that you and those listed below will be able to participate in the Electromagnetic Fields (EMF) Measurement Training program as a guest of Hawaiian Electric Company on June 23 and 24:

Anthony Buswink
Dave Halstein
Bess Lee
Herbert Rosenbush

The first day of training will be conducted from 8:00 a.m. to 4:00 p.m. in Hawaiian Electric Industries', Training Room #1, located on the 8th floor of the Pacific Tower, 1001 Bishop Street. The schedule for the second day will be from 7:30 a.m. to 4:00 p.m. and will consist of a series of field exercises with the base of operations at the Ward Avenue Baseyard. Details of where to report will be given on the first day.

If you have questions regarding the training, please contact Dennis Pfersich in HECO's Human Resources Department, 543-4665.

Sincerely,

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000



June 10, 1993

Mr. Leslie Au
Hazard Evaluation Office
5 Waterfront Plaza
500 Ala Moana Blvd.
Honolulu, HI 96813

Dear Mr. Au:

I am pleased that you will be able to participate in the Electromagnetic Fields (EMF) Measurement Training program as a guest of Hawaiian Electric Company on June 23 and 24.

The first day of training will be conducted from 8:00 am to 4:00 pm in Hawaiian Electric Industries', Training Room #1, located on the 8th floor of the Pacific Tower, 1001 Bishop Street. The schedule for the second day will be from 7:30 am to 4:00 pm and will consist of a series of field exercises with the base of operations at the Ward Avenue Baseyard. Details of where to report will be given on the first day.

If you have questions regarding the training, please contact Dennis Pfersich in HECO's Human Resources Department, 543-4665.

Sincerely,

A handwritten signature in black ink, appearing to read 'William A. Bonnet'. The signature is fluid and cursive, with a prominent 'W' and 'B'.

William A. Bonnet
Manager, Environmental Dept.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000



June 10, 1993

Mr. Jack Durian
Facilities Branch
Department of Education
809 8th Ave.
Honolulu, HI 96816

Dear Mr. Durian:

I am pleased that you will be able to participate in the Electromagnetic Fields (EMF) Measurement Training program as a guest of Hawaiian Electric Company on June 23 and 24.

The first day of training will be conducted from 8:00 am to 4:00 pm in Hawaiian Electric Industries', Training Room #1, located on the 8th floor of the Pacific Tower, 1001 Bishop Street. The schedule for the second day will be from 7:30 am to 4:00 pm and will consist of a series of field exercises with the base of operations at the Ward Avenue Baseyard. Details of where to report will be given on the first day.

If you have questions regarding the training, please contact Dennis Pfersich in HECO's Human Resources Department, 543-4665.

Sincerely,

A handwritten signature in black ink, which appears to read "William A. Bonnet". The signature is fluid and cursive, with a long horizontal stroke at the end.

William A. Bonnet
Manager, Environmental Dept.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000



June 10, 1993

Mr. Alan Honma
Facilities Branch
Department of Education
809 8th Ave.
Honolulu, HI 96816

Dear Mr. Honma:

I am pleased that you will be able to participate in the Electromagnetic Fields (EMF) Measurement Training program as a guest of Hawaiian Electric Company on June 23 and 24.

The first day of training will be conducted from 8:00 am to 4:00 pm in Hawaiian Electric Industries', Training Room #1, located on the 8th floor of the Pacific Tower, 1001 Bishop Street. The schedule for the second day will be from 7:30 am to 4:00 pm and will consist of a series of field exercises with the base of operations at the Ward Avenue Baseyard. Details of where to report will be given on the first day.

If you have questions regarding the training, please contact Dennis Pfersich in HECO's Human Resources Department, 543-4665.

Sincerely,

William A. Bonnet
Manager, Environmental Dept.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001



June 10, 1993

Mr. Mel Seo
Facilities Branch
Department of Education
809 8th Ave.
Honolulu, HI 96816

Dear Mr. Seo:

I am pleased that you will be able to participate in the Electromagnetic Fields (EMF) Measurement Training program as a guest of Hawaiian Electric Company on June 23 and 24.

The first day of training will be conducted from 8:00 am to 4:00 pm in Hawaiian Electric Industries', Training Room #1, located on the 8th floor of the Pacific Tower, 1001 Bishop Street. The schedule for the second day will be from 7:30 am to 4:00 pm and will consist of a series of field exercises with the base of operations at the Ward Avenue Baseyard. Details of where to report will be given on the first day.

If you have questions regarding the training, please contact Dennis Pfersich in HECO's Human Resources Department, 543-4665.

Sincerely,

William A. Bonnet
Manager, Environmental Dept.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001 • (808) 543-5620



Richard L. O'Connell
Vice President
Customer Relations

May 12, 1993

Mr. Alfred K. Suga
Assistant Superintendent
State of Hawaii
Department of Education
Honolulu, HI 96804

Dear Mr. Suga:

Hawaiian Electric Company is planning to sponsor a two-day course on Measurement of Electric & Magnetic Fields. The course will be given by a representative of the Electric Power Research Institute on June 23-24, 1993. The first day will be held at the HEI Training Facility on the 8th floor of the Pacific Tower (corner of King and Alakea Streets). The second day will be in the field originating at HECO's engineering offices located at 820 Ward Avenue.

Knowing of your strong interest in this subject, we have reserved two spaces for employees of the DOE. The costs will be borne by HECO.

Please let me know as soon as possible if you will be able to take advantage of this offer. I will look forward to hearing from you.

Sincerely,

TESTIMONY BEFORE THE JOINT HOUSE COMMITTEES
ON HEALTH,
ON INTERGOVERNMENTAL RELATIONS AND INTERNATIONAL AFFAIRS

APRIL 15, 1993

H. R. 260/H.C.R. 264

By: William A. Bonnet, Manager
Environmental Department
Hawaiian Electric Company, Inc.

Chairmen Duldulao and Taniguchi and Members of the Committees:

My name is William A. Bonnet and I represent Hawaiian Electric Company and its subsidiary utilities, Hawaii Electric Light Company and Maui Electric Company.

Hawaiian Electric Company supports the concept of a panel or task force to review what is known about health effects of non-ionizing radiation. While we defer to the Legislature on details related to the structure and scope of this effort, we strongly suggest that the Department of Health provide leadership and that a legislative appropriation be made to the Department to support both administrative expenses and possibly the cost of bringing acknowledged experts from the mainland for consultation. We would defer to the Department on a recommended amount for the appropriation. We also suggest that caution be exercised at this stage in mandating reductions in exposure. Such language presumes either adverse health effects or, in the absence of health effects, a dose-response relationship. To the best of our knowledge, neither of these has been established through research. Therefore a mandate to minimize exposure may unnecessarily constrain the

panel or task force in their deliberations.

However this work is undertaken, Hawaiian Electric Company believes it is essential that sound, balanced public information on the subject be developed and communicated. We look forward to an active role in this program.

TESTIMONY BEFORE THE SENATE COMMITTEE
ON HEALTH

April 2, 1993

S. C. R. 152, S. R. 89, & S. C. R. 172

By: William A. Bonnet, Manager
Environmental Department
Hawaiian Electric Company, Inc.

Chairman Kobayashi and Members of the Committee:

My name is William A. Bonnet and I represent Hawaiian Electric Company and its subsidiary utilities, Hawaii Electric Light Company and Maui Electric Company.

Hawaiian Electric Company supports the establishment of a panel or task force to review what is known about health effects of non-ionizing radiation. While we defer to the Legislature on details related to the structure and scope of this effort, we strongly suggest that the Department of Health provide leadership and that a legislative appropriation be made to the Department to support both administrative expenses and possibly the cost of bringing acknowledged experts from the mainland for consultation. We would defer to the Department on a recommended amount for the appropriation. We also suggest that caution be exercised at this stage in mandating reductions in exposure. Such language presumes either adverse health effects or, in the absence of health effects, a dose-response relationship. To the best of our knowledge, neither of these has been established through research. Therefore a mandate to minimize exposure may unnecessarily constrain the panel or task force in their deliberations.

However this work is undertaken, Hawaiian Electric Company believes it is essential that sound, balanced public information on the subject be developed and communicated. We look forward to an active role in this program.

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-0001 • (808) 543-5620



Richard L. O'Connell
Vice President
Customer Relations

March 29, 1993

Dr. Bruce Anderson, Deputy Director
Hawaii State Department of Health
Environmental Health Division
P. O. Box 3378
Honolulu, HI 96801

Dear Bruce:

We are pleased to be able to give you the enclosed EMF gauss meter for use by the Department of Health.

Since we have been making EMF measurements in our customers' homes at their request, we have found this service provides an excellent educational opportunity. Measurements of appliances and other sources in the home also help to put into proper context the very low levels of EMF exposure proposed by some as being harmful. It also gives our customers the information they need to take prudent avoidance steps if they wish to do so. All things considered, on-site residential EMF measurements, though resource intensive, are well worth doing, in our view.

As you are aware, we have also given a gauss meter to the Division of Occupational Safety and Health with the understanding that DOSH will respond to any measurement requests we get from commercial customers, including government offices. You may wish to refer such requests to them also.

As we have already advised, we are arranging a visit to Hawaii by Electric Power Research Institute staff in May or June for the purpose of providing training in the operation and use of gauss meters. When dates for this training have been set, we will let you know so that you can arrange to send appropriate staff members to receive this training.

Dr. Bruce Anderson
March 29, 1993
Page 2

Finally, we are assembling a data base of customer EMF survey results and would appreciate receiving a copy of any of your survey reports that you distribute outside the DOH. We would be willing to share the consolidated data base with you should you have an interest in it.

I hope you find this gauss meter to be of significant value in providing the public with information on EMF.

Sincerely,



Enclosure



Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000

ENVIRONMENTAL
DEPARTMENT



F A C S I M I L E C O V E R L E T T E R

DATE: 1/28/93

TO: Bruce Anderson

COMPANY:

CITY & STATE:

FAX NUMBER: 586-4444

FROM: ***** W. A. BONNET *****

PHONE NUMBER: ***** (808) 543-5673 *****

TOTAL NUMBER OF PAGES, INCLUDING COVER SHEET: 1

ORIGINAL TO BE SENT: YES / NO

SPECIAL INSTRUCTIONS OR NOTE:

TO: Bruce Anderson

FROM: Bill Bonnet *Bill*

SUBJ: EMF

I understand CBS "Street Stories" (Channel 9, 8:00 pm) is going to feature EMF tonight. Rumor has it the presentation may be sensationalized in ways that could call for a response from DOH and from HECO. Just wanted to give you a heads up.

xc: G. T. Iwahiro
C. Freedman
R. O'Connell

We are sending from a RICOH FAX1010L - Phone No. : (808)543-7023
If you do not receive all the pages, please call (808)543-7022
or 543-5675

Work Order Number: JA -

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000



William A. Bonnet
Manager
Environmental Department

January 11, 1993

Dr. Bruce Anderson
Deputy Director
Hawaii State Department of Health
Environmental Health Division
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Dr. ^{Bruce}Anderson:

Subject: Leonard Sagan, M.D.

Dr. Sagan is senior medical scientist in EPRI's environment division, and extremely knowledgeable on health-related research in the area of EMF. He is available to HECO in Honolulu March 1, 4, and 5 (he will be with Kauai Electric on March 2 and 3). We are in the process of organizing his schedule and would like to make him available to you and your staff if you feel this would be worthwhile. Dr. Sagan will be briefing the officers of Hawaiian Electric Company the afternoon of March 1, but could be available that morning or possibly late that afternoon (say 3:00 p.m.). In addition, if you believe it would be beneficial to try to arrange a briefing of others in the medical community, let me know your thoughts on who this might be.

Sincerely,

cc: G. T. Iwahiro
R. L. O'Connell

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000



William A. Bonnet
Manager
Environmental Department

December 28, 1992

The Honorable Duke Bainum
Chairman - House Committee on
Energy & Environmental Protection
Leiopapa a Kamehameha Building
235 So. Beretania St. - Room 1102
Honolulu, Hawaii 96813

Dear Representative Bainum:

As promised in our meeting on December 23, I am sending you a copy of material provided to the Pearl City Neighborhood Board on November 19 in support of HECO's proposed Waiiau-CIP transmission project. Included are a variety of EMF measurements taken around the area and in Senator Tungpalan's residence. These measurements allowed the Board members to determine for themselves what magnetic field strengths may be considered characteristic of existing conditions, as a basis for their judgement of exposure impact from the proposed lines. The Board voted to support the project.

You had also requested in our meeting that measurements be made at certain locations within your district, and we will be pleased to do so. If you would ask Wright Hyatt to contact Dave Waller at 543-4794, they can make arrangements for a time which is mutually satisfactory. For the record, you had specifically expressed interest in measurements at:

- o University and Kapiolani;
- o Kapiolani and Keeaumoku;
- o King and McCully

and we had suggested a measurement near the 138kV line entering Pukele Substation in Palolo Valley, as indicative of fields associated with the 138kV project proposed for East Oahu. More extensive measurements will be taken in support of the EIS for this project.

The Honorable Duke Bainum
Chairman - House Committee on
Energy & Environmental Protection
December 28, 1992
Page 2

Finally, we look forward to confirmation of the informational meeting for your legislative committee, tentatively scheduled for January 12, 9:00 am - 12:00 pm.

Sincerely,



Enclosure

cc: G. T. Iwahiro w/o enclosure
K. Doyle w/o enclosure
D. Waller w/o enclosure

